

Assignment 4 (Due Feb 13, Tuesday before noon)

Qs 1

Explain the following terms:

instance variable, instance method, default constructor,
accessor method, mutator method, specific constructor.

Qs 2

(4.24) Develop and implement a class *Account* that represents a savings account. An *Account* object should have three attributes: the *name* of the account, the *owner* of the account, and the current *balance*. The class should provide the following constructors behaviors.

- **Account()**: configures a new account with name “name”, owner “owner”, and balance 0.
- **Account(String s, String t, double n)**: configures a new account with name *s*, owner *t*, and balance *n*.
- **void deposit(double n)**: adds amount *n* to the current balance of the associated account.
- **void withdraw(double n)**: subtracts amount *n* to the current balance of the associated account.
- **void close()**: zeros out the account balance, sets the owner to “”.
- **String getAccountName()**: returns the name of the associated account.
- **String getOwner()**: returns the owner of the associated account.
- **double getBalance()**: returns the balance of the associated account.
- **void setName(String s)**: sets the name of the associated account to *s*.
- **void setOwner(String s)**: sets the owner of the associated account to *s*.
- **String toString()**: returns a textual representation of the attributes of the associated account.

Qs 3

(4.25) Develop and implement a class *Date* to represent a date. A *Date* object should have three attributes: the *day* of the month, the *month*, and the *year*. The class should provide the following constructors behaviors.

- **Date()**: configures a new account to represent the date *1 January 2000*.
- **Date(int d, int m, int y)**: configures a new date with day *d*, month *m*, and year *y*.
- **int getDay()**: returns the day of the associated date.
- **int getMonth()**: returns the month of the associated date.
- **int getYear()**: returns the year of the associated date.
- **void setDay(int d)**: sets the day of the associated date to *d*.
- **void setMonth(int m)**: sets the month of the associated date to *m*.
- **void setYear(int y)**: sets the year of the associated date to *y*.
- **String toString()**: returns a textual representation of the associated date.

After you define this class *Date*, write another problem, which will use the class *Date* and do the following operations:

1. Configure a new date “13 February 2007”, output it.
2. Change the date to “27 February 2007” using the `setDay` method, and output the following message: “**The first midterm will be on 27 February 2007**”, where the value of “27”, “February” and “2007” should be obtained by `getDay`, `getMonth` and `getYear` methods.